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CHARLES ELMORE

IN THE

Supreme Court of the United States,

OCTOBER TERM, 1930.

(35,585.)

THE PERMUTIT COMPANY,
Petitioner,

vs. No. [redacted]

GRAVER CORPORATION,
Respondent.

REPLY BRIEF FOR PETITIONER.

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No. 663.

REPLY BRIEF FOR PETITIONER.

Our adversary's brief is long and diffuse; it is lengthened by argument upon points as to which there was no conflict between the several Courts of Appeals which have passed upon the patent; and it contains statements tending to mislead unless mis-statements are corrected and omissions supplied. Hence prudence suggests the submission of a reply brief.

I.

Record in this Case.

Respondent's main point seems to be, that the lower Courts in this case recognized and decided upon material differences in the evidence in this case, as compared with that in the previous cases. This, we think, is not so.

The *District Court* did not decide upon any difference in the evidence between this case and those in the Second and

Sixth Circuits but upon his "convictions to the contrary" (R. 566) of those decisions. He says that they had had before them "all the references except the Weiss thesis". He adds his belief that "had this situation been as *fully presented*" to the previous Courts as to him, "there could have been but one conclusion." Such supposedly fuller presentation is not particularized, whether it be argument or otherwise. No particular difference in the record is relied upon, or pointed out.

The *Court of Appeals* recognizes the force of the presumption arising from the grant of the patent (R. 689, bottom) and strengthened by the previous decisions but differs from them by saying that the litigants "have a right to the independent judgment of this Court" (R. 690). This it arrives at, differing from those which considered the patent and the same defences before. *After reaching its conclusion* it adds:

> "Moreover, we are satisfied, that the record in the instant case is *somewhat* different from the records presented on the other appeals." (R. 690—Italics ours.)

No material difference is pointed out, as having affected the Court's judgment in any particular.

II.

Oath of Gans.

Respondent asserts repeatedly (*e. g.,* p. 16) that Gans made a "false oath" to deceive the United States Government, for the asserted reason that the invention was not novel, as he there declared. This is without foundation and begs the essential question in issue; namely, did Gans make an invention which was not disclosed in the prior publications. The Courts of Appeals of the Second and Sixth Circuits have already correctly answered this question and found that his invention was not anticipated; hence Gans' oath was entirely true. Even the District Court below recognized that the prior references *did not contain any dis-*

closure which could constitute an anticipation of the Gans invention, saying (R. 566):

> "* * * the teachings (of the prior references) *are not of sufficient degree of certainty to satisfy the requirements stated by the Supreme Court as necessary to support anticipation.*" (Parentheses and Italics ours.)

The Court of Appeals below, likewise, did not accept respondent's assertion, which there, as here, was couched in language at least suggestive of scandal and impertinence.

The correctness of Gans' averment is supported by the concurring decisions of the Second and Sixth Courts of Appeals, and is not disturbed by the findings of the Courts below. The charge is based upon an interpretation of documents which even the trial Court characterized as insufficient in certainty.

III.

The Gans Article of 1909 (Rsp. brief, pp. 49-55).

Respondent's discussion (Brief, pp. 49-55) of the Gans article has now omitted all reference to the one matter which all the Courts and the respondent have regarded as vital to the question in issue—does the Gans article disclose the necessary free bed.

In our main brief (p. 36) we called attention to the remarks of respondent's counsel on the record and his like contentions were also stated in its brief in opposition to our petition for certiorari, at page 11. Now there is not a mention of the German word "hohe" nor of the question as to what that part of the Gans article disclosed to the American public.

Respondent's present argument, even more than before, revolves around matters outside the disclosure of the German publication itself. For example, it takes a statement

of petitioner's expert, Mr. Waterman (R. 70) and quotes part of it (brief, p. 54) in order to try to make it appear that the Gans article would disclose to experts a softener with a free bed simply because the article uses the words "back washing". Waterman was being interrogated and so answered the questions with relation to what the Gans patent—*written specification and drawings*[1]—meant to him. The Gans *article* has no drawings; the context of the testimony clearly shows that Waterman was not trying to supply a blanket definition of the words "back washing", but merely to say what the disclosure of the patent in suit, as a whole, taught him. Respondent's use of the testimony to piece out an insufficient prior publication is unjustified, and the distorted use can not make that "an entirely new reference" (Rsp. brief, p. 50), because it does not refer to that publication at all. That, upon all the canons of interpretation must be full, complete and explicit, or fail.

Seymour v. *Osborne*, 11 Wall. 516, 555;
Harvey Laundry case (274 Fed. 937, 940; 279 Fed. 713, 718).

As part of respondent's effort to make it appear that the 1909 article and the other German publications were talking about operative structures, it charges us with "misrepresentation" (Rsp. brief, 53) in our statements that zero water was commercially unknown until the patented apparatus was introduced. Our statement represents the fact and there is not one word in the record to the contrary. Respondent bases its assertion solely on *statements in the German publications* as to what is there said to have been done in Germany—there is absolutely no corroboration. Peti-

[1] Both specifications and drawings are to be considered together as constituting the disclosure of a patent (Rev. Stat. Sec. 4888 and Sec. 4889). The Gans patent has this disclosure while the *Gans article of 1909 has no drawings and does not disclose any of the system of piping*, and connections to the container, necessary to provide softening flow, regenerating (salt) flow, and back washing.

tioner offered to prove that the foreign structures were in fact inoperative but was ruled against by the trial Judge because of the direct acknowledgment by respondent's counsel (R. 176-8) that defendant was not relying upon any prior or other use in Germany.

(R. 176):

"Mr. Cooper: I want to show whether the disclosures of these particular things on which the defendant relies, whether *they* would work or not work.

"The Court: *I do not understand the defendant to rely upon prior use in Germany at all.* As to anticipation, I do not understand you to rely on that.

"Mr. Wilkinson: *Not at all.*

"The Court: If so, it is my duty to overrule them."

(R. 177):

"Mr. Cooper: They have set up here and argued to your Honor that there was no invention in view of these very things that I am inquiring about.

"The Court: The disclosure, as I understand it.

"Mr. Wilkinson: That is it exactly.

"The Court: The state of the art as shown by these things; not as anticipation. Is that right?

"Mr. Wilkinson: That is right. Certainly we could not rely upon a foreign use."

(R. 178):

"Mr. Cooper: Your Honor has admitted the evidence of two young men, both of whom graduated from college after the date of this invention, who testified, one of them with respect to each of these documents that I am now having under consideration, that anybody could make a commercially successful device from that disclosure. I am endeavoring to show that contemporaneously with those disclosures the utmost efforts were used by large interests in Germany, and that they failed to make a commercially successful device until Gans made the invention of the patent in suit."

The statements of counsel thus show that defendant thus disclaimed all reliance upon what was *done* in Germany as

affecting the patent in suit, and said it was only depending upon the disclosures.

Yet, now as respondent, it *is* relying upon the asserted *use* in Germany, to support a charge against us of *misrepresentation;* as well as to support its thesis that "zero" water was attained in Germany by the use of the prior devices. We think respondent must fail on both propositions. With them falls, also, respondent's reckless charge of *dereliction of duty by the Courts of Appeals* for the Second and Sixth Circuits (Rsp. brief, 54) that they did not give careful attention to the Gans article, saying:

> "Those courts at that time apparently *assumed, if they considered the Gans article at all,* that plaintiff's translation were correct, * * *."

In reference to this slur, we invite particular attention to what Judge Learned Hand says, 292 Fed. Rep., at page 241, top, and what the Sixth Court of Appeals says, 13 Fed. Rep. [2d], 456, second column.

IV.

The Duggan Patent.

Respondent asserts (p. 110) that petitioner is "estopped" to allege that a locked bed is inoperative because of the issuance to it of the Duggan patent 1,276,629 on August 20, 1918, and says this is a new point of view regarding the Duggan patent and (p. 71):

> "Apparently this patent was not called to the attention of the Sixth Circuit Court of Appeals."

The facts are that the Duggan patent was included in the bill of complaint in the Detroit case but for error in the original discovered subsequent to the filing of the bill and prior to the trial, it was withdrawn from suit, canceled and reissued as No. 15,618 on June 5, 1923. The original patent

was *included in the printed record* before the Circuit Court of Appeals for the Sixth Circuit as Plaintiff's Ex. 2 at pages 717-723 of that Record.

The elements of estoppel—which means prohibition against speaking the truth because of previous conduct—are not established by these circumstances (Cf. 141 U. S. 424, bottom, *McClain* v. *Ortmayer*).

V.

The Duggan Letter—Water Filters and Water Softeners.

Respondent argues that the mechanical water filter patents are in the same art with the Gans patent because an employee of petitioner, Duggan (R. 546) wrote a letter *in 1920* in which he said the process (referring to his company's water softening) was "very simple as you will notice by the literature which we enclose" and that—

> "It was nothing more or less than a filter but the bed, instead of being sand or some other material, is a zeolite * * *."

It may be true that, in common parlance now, a zeolite water-softener may be described as a kind of filter. But that is far from saying that the old filters taught the art how to make water-softeners. The reverse is true, for, as Kriegsheim shows, without contradiction; for (R. 173) both his concern, Grove & Co. and Gans (J. D. Riedel & Co.), made water filters for years before the invention; yet, with all their knowledge, it took months of effort on Gans' part to discover *why* the early zeolite filters failed in service, and to remedy the defect by the device of the patent in suit—when it was discovered.

As shown below (pp. 11-16), the existing sand filters were not applicable as water softeners by mere substitution of zeolites for sand.

VI.

Gebrauchsmuster.

The issue as to the two German Gebrauchsmuster is urged strenuously by respondent, notwithstanding, as shown at page 21 of our main brief, the Court below agreed with the other Court of Appeals as to them. But, for completeness of statement, we will explain now the basis of the concurrent decisions.

A Gebrauchsmuster can not be considered a *printed publication* within the meaning of Revised Statutes, Sec. 4923, for *only the title is printed* and the titles of these two Gebrauchsmuster do not disclose the invention of the Gans patent and can not be a bar to it (R. 660, 664).

It is doubtful whether a Gebrauchsmuster is a patent but the question is of only academic interest, for it is clear that at most the *claim* is the only matter for which protection is granted and that any anticipatory effect is confined to the claim. The claim of neither of these Gebrauchsmuster is addressed to the Gans invention.

When the Gans patent in suit was before the Circuit Court of Appeals for the Sixth Circuit, Judge Denison in discussing the matter of Gebrauchsmuster stated:

> "Several *gebrauchsmuster* are relied upon. Clearly these are not publications. That they are 'patents' at all has been denied (*Steiner* v. *Schwarz,* Holt, *D. J.,* [C. C.] 148 F. 868, 870); but if they are, their anticipatory effect is confined to the claim, for that is the thing 'patented'. (*Leeds* v. *Victor,* 213 U. S. 301, 315, 318, 29 S. Ct. 495, 53 L. Ed. 805; *Commercial* v. *Acetylene,* [C. C. A. 6] 192 F. 321; 112 C. C. A. 573); and the Gans patented invention is not covered by any *gebrauchsmuster claim.*" (*Permutit* v. *Wadham,* 13 Fed. [2] 454, 458).

Again considering these Gebrauchsmuster on rehearing the Court said:

> "Further, and in any event, the descriptions in these Gebrauchsmuster fall far short of that clear and definite disclosure of the precise invention now involved, which would be required, even if they were publications, to give them anticipatory effect." (*Permutit* v. *Wadham, et al.*, 15 Fed. [2], 20, 21.)

The Court of Appeals below did not differ (R. 688). But if these documents be regarded as prior patents, they are insufficient:

Gebrauchsmuster 313,671 (R. 660) shows the device of the Feldhoff article (R. 477) and has a layer of gravel over the permutit bed and a manhole had to be provided for removing and cleaning the lower layer of gravel; like the other locked bed constructions, it was a failure (R. 183). The claim reads:

> "Filter for removing lime from boiler feed water consisting of a box with permutit (zeolith) layer enclosed between layers of gravel, and regenerating device."

Obviously the device *shown, described* and *claimed* is not that of either claim 1 or 5 of the patent in suit and the Gebrauchsmuster is not a reference.

Gebrauchsmuster 341,512 (R. 664) shows and describes a small conical sheet metal holder supported on legs. There is a short stub outlet pipe at the bottom of the container but it has no shut-off cock, and the extreme shortness of this pipe indicates that none was intended. The specification states that the zeolite layer weighs only one kilogram (two pounds), so that the apparatus is intended to be very small. Its apparent purpose was to produce a bucketful of water at a time. There was nothing continuous about its operation—no piping for continuous flow, whether of hard water, of brine, or of back-wash. Obviously, the construction is intended to allow as much water to run into the apparatus as will fill the bucket, then shut off the supply and let the

apparatus drain. There is no suggestion in this Gebrauchsmuster of any washing operation. Respondent's witness, Moses, undertook to explain (R. 113) how he could *reorganize* the device to carry out the necessary operations. But Moses is speaking in the year 1929, years after the issue of the Gans patent in suit. The claim of this Gebrauchsmuster is directed to the form of sprinkler and does not relate to the invention of the Gans patent.

Neither Gebrauchsmuster is a defence to the patent in suit.

VII.

Defendant's Assumptions Regarding Patent Office.

Respondent states *as a fact* (p. 24) that the Patent Office "didn't know of the existence of Feldhoff article", Rundschau, the Gans article, Leister patent, the Gebrauchsmuster and the Weiss thesis and then goes on to say, but if it had known of them "the Gans patent never would have been issued." We might inquire where these matters, so confidently stated as *facts,* were learned or why Gans *must* have known of all of them and the Patent Office not; but that would be speculation. No one was called as a witness, whether from the Patent Office, or from Germany, to support either assertion. If it were true, it would only go against the presumption of validity. But the Courts of Appeals for the Second and Sixth Circuits considered these items and overruled them as defences,[1] and it is not reasonable to suppose that the Patent Office would have rejected the claims in suit on them, for none discloses the combinations set forth in the claims.

[1] Weiss article alone was not before the other Courts, and it is too late in date, as shown at page 33 of our main brief.

VIII.

The Gans File Wrapper and the Old Water Filters.

Respondent advances rather diffuse arguments based upon the Gans file wrapper (Rsp. brief, pp. 22-27). The Court of Appeals did not discuss it or indicate any dissent from the other Courts in respect of it, and while the District Court did, it fell into the apparent error of saying (R. 569) that——

> "the patent office was right in its conclusion that in substance the claims are merely reproductions of structures found in the prior art";

whereas in fact the Patent Office *allowed* the claims over the references. We think they are all answered by the following consideration of the Patent Office proceedings.

[*Note:* The file wrapper was offered on the trial, but was not included in the transcript, being sent up as a physical exhibit.]

The file wrapper history shows that the Examiner and the applicant at no time considered the claims as including a filter bed having a superposed layer or other *locking means* or layer for holding the zeolites against movement, for in this case the rotary stirring device described, would have been inoperative, and claim 2 of the patent, which includes the stirrer, would not have been allowed by the Examiner. The definition of the bed by what it *did* consist of; *viz.*, in claim 1 two layers, thereby excluding a third element—to-wit, a locking means for holding the zeolites in place, made unnecessary a recitation in the claims of what elements they did not contain. That is to say, claim 2, by including the stirrer, *necessarily implies* a free bed; while claim 1, drawn upon the self-same elements (except the stirrer), and being necessarily related to the disclosure of the drawings which illustrate *both* a stirrer (Figs. 2 and 3) and an uncovered bed (Figs. 1

and 2), must be construed as for a device in which a confining upper layer is absent. Similarly as to claim 5.

The Courts in construing the claims as limited to a *free and unconfined* zeolite bed, are merely saying that they do not include an element unrecited in the claims and not shown in drawings or described; *viz.*, a locking means, and are *not* to be construed broadly as including it. It is not a question of the Courts having read an element into the claim, but rather that they recognized that the claims are directed to the Gans disclosure, which did not include locking means for the zeolite bed—as clearly shown in the drawings (Pet. main brief, p. 9).

The point may well be tested further thus: Suppose it were asserted that the claims are infringed by a softener having a zeolite bed locked by a superposed layer. It would be pointed out that the disclosure precludes such layer for the reasons just shown; also that the presence or absence of such layer makes a substantial change in the structure and its mode of operation. It would necessarily follow that, notwithstanding possibility of reading the claims upon the locked-bed structure, there would be no infringement by it (*vid. Westinghouse* v. *Boyden,* 170 U. S. 537, 568). Hence, follows the application of the rule there illustrated, that that which does not infringe, if later, does not anticipate, if earlier.

Defendant's argument (pp. 22-27) in regard to the file history (Pl. Ex. 65) of the patent seems to be an attack on the Examiner for changing his mind and receding from his original rejection of certain claims. This use of the file wrapper goes far beyond the rule which restricts to the purpose of ascertaining whether the patentee has limited his claim by an amendment which the patentee is trying to disregard in order to make out a case of infringement. (See cases cited on page 16 below.)

Defendant quotes the Examiner's objections to the claims then pending, including the claim which issued as claim 1 of the patent. It should be noted that as soon as applicant can-

celed original claims 1, 2 and 3, in compliance with the Examiner's objection and called his attention to the fact that the objection did not apply to the remaining claims, the Examiner at once allowed these remaining claims. The Examiner's original position seems to have been that he would not allow any claim which did not recite elements sufficient to distinguish from the references, other than by merely calling for zeolites instead of the sand or gravel of the references. But where a claim characterized the combination as a water softener as distinguished from a mechanical filter, by reciting any element or feature other than the mere substitution of zeolites for the sand or gravel of the filter art, the Examiner properly held it allowable.

Original claim 2 was loosely drawn and from its general language, was open to the objection that it could be read on the references cited, except in the replacement of the sand filter of the reference by a bed of zeolites. Claim 1 of the patent, however, differed from original claim 2 in setting forth a new type of filter bed distinguished from that of the references cited and from any prior art, to wit; a *filter bed consisting of* two layers, *viz.*

(1) A layer of sand or quartz, *and*

(2) A layer of zeolites disposed thereon.

The Examiner, with claims 1, 2 and 3 particularly in mind, repeated his objection to these, and at first erroneously applied the same objection to the other claims then in the case, including claim 1 of the patent, to which obviously the objection did not apply, since that claim did not cover a substitution of a zeolite bed for a sand filter bed, but covered an *addition* of a layer of zeolites *to* the sand filter bed of the reference.

There is no question but that respondent has the "layer of sand or quartz" called for in the claim (Graver bulletin, R. 231, etc.), so there could be no merit anyway in respondent's remarks regarding limitations.

The statement in respondent's brief (p. 25) that claim 5 is *identical* with claim 1 with the exception that it has in addition the limitation——

> "and means connected to the lowest point of the casing for removing the salt solution so introduced",

is a mistake. A careful consideration of claim 5 of the patent and of its file wrapper history shows that it presents the combination of the necessary elements in another way, emphasizing more particularly the importance of the various parts of the structure with relation to *regeneration.*

In claim 1 as we have pointed out, the filter bed is treated as an entirety, made up of two parts only, one of which is a layer of sand or quartz. In claim 5 the layer of sand or quartz is looked at as one example of a means for supporting the zeolite layer, so it is included generically as a separate element under the term "supporting means for said layer" —thereby covering other forms of support, as well. This necessitated considering the layer of zeolites as a separate element, so here the term filter bed applied directly only to the layer of zeolites. The predecessor of claim 5 reads as follows:

> "Water softening apparatus comprising a casing, a filter bed consisting of a layer of zeolites or aluminosilicates, supporting means for said layer, means for permitting the passage of water through the casing, means for cutting off the supply of water on the exhaustion of the zeolites and means for passing through the casing a solution of a salt capable of regenerating zeolites." (File Wrapper, p. 35.)

This claim was rejected as a mere double use of the Bommarius apparatus.

The Bommarius references were mechanical filters one at least of which had a tank for supplying an alum solution to the *water to be filtered* (No. 632,091, R. 608, element 30), on the theory that the alum would combine with and precipitate impurities in the water, so that the alum and the im-

purities would be strained out and retained in the filter bed, while the filtered water would go to what might be called the house line; that is, the pipe which led away the purified water from the filter.

This Bommarius patent, which is at least as close as any of the prior filter patents, would have to be changed in the following particulars, in order to convert it into Gans' water-softener: (*a*) add a layer of zeolites; (*b*) substitute a brine supply for the alum pot; (*c*) make a direct connection from the brine tank to the filter, in place of the connection to the water supply 17; (*d*) make an outlet at the bottom of the tank 2 for drawing out the spent brine from the lowest point.

The claim as it stood did not bring out the essential differences, and hence was amended materially, so that instead of calling for "means for passing through the casing a solution of salt" which would read on apparatus having a salt tank feeding into the incoming water to be softened—a wholly inoperative device in water-softening—it said "means for supplying and passing *into the casing* a solution of salt", etc. As thus far amended the claim was incomplete; it provided means for getting the salt solution into the casing independently of the hard water to be softened, but it left the salt water there. Hence it was necessary to include a further element; *viz.*, means for removing the salt solution, and this was done by adding the description of the preferred form of the invention; *viz.*,

> "means connected to the lowest point of the casing for removing the salt solution so introduced."

In view of the material change of the claim aside from the term "lowest point of the casing" it is not reasonable to say that the claim was granted wholly because of the last words entered by the amendment. The claim was allowed because of the entire combination, which defined an operative water softener clearly distinguished from the references.

It is significant that respondent in attempting to support an argument (Rsp. brief, p. 27) that the connection for

withdrawing the salt solution, referred to as an element of claim 5 of the patent in suit, must be *physically* connected to the lowest point of the casing, quotes only a *portion* of a statement in the Gans file wrapper, and says:

> "Then on page 50 of the file wrapper, in discussing the Bommarius patent 519,565 (R. 598), Gans stated in connection *with his device* * * *" (Italics ours).

We italicized the last three words of respondent's remarks for the reason that the Gans file wrapper supports no such assertion.

What Gans was talking about was "in connection with" *the Bommarius patent* and some of the changes and reorganizations of *that* device which are necessary to make the Bommarius structure operative to carry out *applicant's* (Gans') *purpose:*

> "As regards Bommarius 519,565 this has, etc. * * * "*In order to made the structure operative for the applicant's purposes,* even conceiving it could be filled with zeolites, there would have to be at least one more connection on top with the supply of salt solution, this being then used as a feed pipe in lieu of a discharge, etc." (Italics ours.—Def. Ex. 65, p. 50.)

The file wrapper does not show that Gans limited his claims, in order to secure allowance, in respects which must now be read out in order to make out a case of infringement. This, by all the ordinary canons of patent interpretation, is the effect attributed by the Courts to the Patent Office proceedings.

Hubbell v. *United States,* 179 U. S. 77, 80;
Smith v. *Magic City Kennel Club,* 282 U. S. 784.

IX.

The Brooklyn Tests.

For a showing of the proof of infringement we need not elaborate on petitioner's main brief and will here only refer to another set of charges in respondent's brief against us (p. 31), namely that plaintiff was guilty of certain "irregularities".

First is the ribbon of paraffin found in the bottom of the softener in the first test, and which was one of the reasons for repeating the test; that is no justification for the statement (and it is an unfair assumption) that:

> "* * * the result of which caused a more intensified flow of rinse water through the other notches, *with the hope of* washing a greater quantity of salt solution from the bottom of the casing" (Rsp. brief, p. 32).

Mr. Hammer's testimony shows that the small piece of paraffin unwittingly present probably exercised no influence on the flow and may not have been in the place where it was found (R. 40), during the operation; Mr. Hammer and every one else present on behalf of plaintiff was as much surprised as Dr. Moses when the paraffin ribbon was found and its presence can only be explained as Mr. Hammer has explained it.[1] The insinuation is unfair.

The second "irregularity" consisted of the use of three drops and then two drops of soap solution for testing hardness of the water, instead of five drops all at once. The record does not establish a uniform practice in the com-

[1] A plug of paraffin had been used to fill a hole cut through the casing in order to withdraw specimens of water. After the test was completed, the plug was withdrawn, and Hammer believes (and no one has any other explanation) that a piece of the paraffin was sheared off by a projecting piece of metal, during withdrawal, and left inside.

mercial field for this rough and ready test and indeed the practice apparently differs and there is no specified procedure in defendant's literature. The facts are all stipulated, there was no effort to conceal anything.

The third assertion is regarding the use of calcium sulphate to harden the water artificially, so as to "exhaust" the zeolites preparatory to their regeneration by the salt water whose alleged remanent "pool" at the bottom was the point relied upon by defendant. The testimony of Mr. Tiger shows the reason for using such a hardening agent in the naturally soft Brooklyn water (R. 85) and Moses admitted (R. 128, bottom) that he had no criticism to make. The brief states (p. 33) that Moses says it had "an appreciable effect" but those were words put into the witness' mouth *by repeated cross-examination by his own counsel* to which we called attention and objected at the time (R. 97):

> "Mr. Byron: State what effect, if any, sodium sulphate resulting from the action of the zeolite on the calcium sulphate has with respect to the standard B & B soap test.
>
> The Witness: The sodium sulphate has a delaying action or slight interference with the formation of a lather on the water and would consequently cause the washing operation to go a little further, but it would indicate soft water by this test.
>
> Mr. Byron: Is it only slight or what?
>
> Mr. Cooper: Well, he said it was slight.
>
> Mr. Byron: Well, now, I am asking him if it is only slight.
>
> Mr. Cooper: I object to your cross-examining your witness.
>
> The Court: Yes; slight is a comparative term. You may explain what you mean by it, at least make an effort to do so. You mean by that it is comparatively slight?
>
> The Witness: Your Honor, I do not like to go into the definition of words.
>
> Mr. Byron: Well, it will have some effect.
>
> A. It will have some effect; that is right.
>
> Q. May I put it this way: Does it have an appreciable effect?
>
> A. It has an appreciable effect."

It could hardly be asserted with reason that petitioner in the tests should use hard water to harden the bed and a different water to wash the bed— that is never done, so far as the record shows.

X.

Up-Flow and Down-Flow Softeners.

Respondent's brief says (p. 102) that "Mr. Waterman was forced to admit that upflow zeolite water softener is superior to the downflow"; Mr. Waterman did not admit this and the record shows that it is not the fact.

Plaintiff makes nothing else but downflow, and it is free to make both kinds. Respondent advances opinion evidence to the effect that the upflow has advantages. *But it has circularized the trade to the contrary* (R. 215; 253; 269).

Upflow softners when operated *at the back-wash rate* will secure the necessary grading and rearranging of the zeolite grains (provided there is a free space as shown in the Gans patent, but not shown in the prior publications) and are then operative. Hundreds and hundreds of upflow softeners have been manufactured by plaintiff's licensees, Paige-Jones and Duro, for instance, in recognition of the fact that they are operative and do come within the Gans patent. But the testimony shows that upflow softeners have to be operated at a constant rate—*the back-wash rate*[1]—and are not adapted to use at any other rate or under conditions where the requirements for soft water vary (R. 66). Moses admitted this fact when he stated that his company did not recommend upflow softeners under such conditions. His testimony and that of Smith and Morgan show (R. 188, *et seq.*) that the International Company's softener (a licensee of plaintiff's) was successful although operated under very erratic conditions of flow and regeneration; but *it was a*

[1] *i. e.*, at the same rate of flow that must be used to back-wash a "down flow" softener after its zeolites have become exhausted, in order to boil up and re-stratify them preparatory to regeneration by brine.

downflow softener, and therefore supports the plaintiff's assertion that the downflow softener will work under varying conditions, while the upflow softener is much less adaptable.

There are assertions of a saving of rinse water in an upflow over a downflow softener, but the Brooklyn tests and Graver's own publications contradict that.

However, the question is of little importance here for the Gans patent describes all the means necessary for practicing his invention and points out the preferred mode of operation; hence the patentee is entitled to all uses to which his invention is adapted. The drawings clearly show the free space above the zeolite bed and all pipe connections required for practicing the invention and operating the machine as either a downflow or upflow water softener.

Claim 1 is limited by the disclaimer to a downflow softener but that disclaimer does not affect or limit claim 5 which has been properly held to read on both an upflow and a downflow softener.

XI.

Disclaimer Does Not Extend to Claim 5.

The disclaimer is limited to claim 1, and restrict it, alone, to a downflow softener (R. 587).

Notwithstanding, respondent contends that it affects claim 5, also.

Previous efforts have been made to place a limitation on claim 5 extending the disclaimer to it, but the Court of Appeals for the Second Circuit denied a petition for rehearing specifically directed to that end in *Refinite case* in 1922. In its later decision against the Paige-Jones upflow softener, the same Court said of the disclaimer:

> "This, however, does not extend to claim 5. We may not so construe it" (22 Fed. [2] 916, 918).

Respondent's brief (p. 106) appears to chide the Court of Appeals for the Sixth Circuit for reaching a conclusion

that an upflow softener probably would not work, but the Court found what is entirely consistent with the testimony in the present record; namely, that upflow softeners (like that of the Feldhoff article) which do not have a free space above the zeolite bed are not operative; that fact is established by the present record and all the softeners of the prior art, both upflow and downflow, failed to provide this necessary free space —none was operative.

Besides, it was not until some one observed—after the trial that went to the Sixth Circuit Court of Appeals—that a free-bed zeolite softener would operate on an upflow if run at the "back wash" rate (*supra,* p. 19) necessary for restratifying the bed of a downflow softener, that the upflow softener appeared on the market.

When it did, its manufacturers except this defendant—so far as appears in the record—took a license under the patent.

XII.

Conclusion.

We submit that the points advanced by our adversaries do not meet our case; that their use of epithets and reflections upon petitioner, its counsel, and the Courts which have held contrary to their contentions, do not advance their cause.

Respectfully submitted,

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Service of copies of Reply Brief for Petitioner is hereby acknowledged this day of September, 1931.

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